DRAFT RULE – ENVIRO COALITION DE MINIMIS PROPOSAL – 10/15/08

Rule 1.3. Antidegradation Standards and Implementation Procedures

Section 4(b)(13) A new or increased loading of a non-BCC pollutant of concern that constitutes a de minimis lowering of water quality.

Dischargers seeking to avoid an antidegradation analysis based on a de minimis exemption are responsible to demonstrate compliance with the following conditions. This demonstration may be avoided if the discharger chooses to proceed on the assumption that the discharge will cause a significant lowering of water quality. Dischargers wishing to make this assumption may skip to an antidegradation demonstration under Section 6 of this rule.

(A) For HQWs that are not OSRWs or EUWs, the following apply:

(i) If the following conditions are met, then the proposed lowering of water quality is de minimis and a Tier 2 review is not required:

(AA) The proposed discharge will result in a reduction of less than 5 percent of the facility loading capacity (FLC) for any pollutant as a result of any single discharge, and

(BB) The proposed discharge will result in a cumulative reduction of less than 10 percent of the segment loading capacity (SLC) for any pollutant as a result of all discharges combined after reference water quality (RWQ) was determined; and

(CC) The proposed discharge will not exceed any default technology based effluent limitations (DTBELs) set by the department for any pollutant of concern.

(ii) Individual loading shall be assessed by calculating the percentage reduction in facility loading capacity (FLC) as a result of a new or increased discharge.

In order to ensure that the proposed discharge will result in a reduction of less than 5 percent of the facility loading capacity, dischargers seeking to use a de minimis exemption must demonstrate that:

$$FLC_2 \geq 0.95\ FLC_1$$

Where:

$$FLC_1 = [(WQC \cdot Qs) - (Cs \cdot Qs)] \cdot CF$$

$FLC_2 = [(WQC \cdot Qs) – (Cs \cdot Qs) – (Ce \cdot Qe)] \cdot CF$

WQC = water quality criterion (represented as a concentration, e.g., mg/L)

Qs = existing stream flow at critical flow conditions (7Q10) measured at a point immediately downstream of the facility seeking the new or increased loading. If existing flow data does not exist or is outdated, the discharger is responsible to provide stream modeling data necessary to establish Qs. Qs does not include proposed effluent flows.

Cs = existing pollutant concentration in stream at critical flow conditions. Where upstream dischargers exist, Cs shall be adjusted to include the levels of pollutants already permitted to be discharged at maximum design flow.

Qe = proposed increase in effluent flow.

Ce = pollutant concentration in proposed effluent.

CF = conversion factor to convert a pollutant mass loading into the desired units. (For example, a CF of 5.4 to derive a load in "lbs/day" is appropriate when the WQC is represented in mg/L and flow is represented in cfs [(mg/L) · (cfs) · 5.4) = (lbs/day)]).

(iii) Cumulative loading shall be assessed by calculating the percentage reduction in segment loading capacity (SLC) as a result of all discharges combined after reference water quality (RWQ) was determined.

In order to ensure that the proposed discharge will result in a cumulative reduction of less than 10 percent of the segment loading capacity, dischargers seeking to use a de minimis exemption must demonstrate that:

$SLC \geq 0.9\ SLC_{REF}$

Where:

$SLC = [(WQC \cdot Q_{SEG}) – (C_{SEG} \cdot Q_{SEG})] \cdot CF$

$SLC_{REF} = [(WQC \cdot Q_{SEG}) – (RWQ \cdot Q_{SEG})] \cdot CF$

WQC = water quality criterion (represented as a concentration, e.g., mg/L)

Q_{SEG} = the critical stream flow (7Q10) measured at the most downstream extent of the water segment.

C_{SEG} = the existing pollutant concentration measured at the most downstream extent of the water segment. C_{SEG} shall be adjusted to account for the levels of pollutants already permitted to be discharged by all upstream dischargers at maximum design flow.

RWQ = reference water quality established at the time of the first application made after October 15, 2008 for a new or increased loading under these antidegradation implementation procedures (represented as a concentration, e.g., mg/L)

(iv) For heat, the following conditions must be satisfied:

(AA) The new or increased discharge will not result in an increase in temperature in a stream or an inland lake, outside of the designated mixing zone, where applicable.

(BB) The new or increased discharge will not result in an increase in waste heat of an amount in a stream greater than the amount determined by calculating the number of British thermal units (BTUs) required to raise the temperature of the stream design flow of the receiving stream by one (1) degree Fahrenheit.

(B) For HQWs that are OSRWs or EUWs, the following apply:[1]

(i) If the following conditions are met, then the proposed lowering of water quality is de minimis and a Tier 2 review is not required:

(AA) The proposed discharge will not exceed the reference water quality (RWQ) for any pollutant in the receiving water; and

(BB) The proposed discharge will not exceed any default technology-based effluent limitations (DTBELs) set by the department for any pollutant of concern.

(ii) Relative to temperature, the new or increased discharge will not result in an increase in temperature:

(AA) in a stream or an inland lake, outside of the designated mixing zone, where applicable; or
(BB) in Lake Michigan, as allowed in 327 IAC 2-1.5-8(c)(4)(D)(iv), at the edge of a one thousand (1,000) foot arc

[1] **Although we do not include a cumulative cap for OSRWs and EUWs in this subsection, we propose a change to Section 3(c) of the draft rule to establish a cumulative cap on loadings into OSRWs and EUWs.**

inscribed from a fixed point adjacent to the discharge.

(iii) Relative to heat, the new or increased discharge will not result in an increase in waste heat in an amount:

(AA) in a stream greater than the amount determined by calculating the number of BTUs required to raise the temperature of the stream design flow of the receiving stream by one (1) degree Fahrenheit; or

(BB) in Lake Michigan, greater than five-tenths (0.5) billion BTUs per hour.

(Water Pollution Control Board; 327 IAC 2-1.3-4)

DEFINTIONS

Loading Capacity: the amount of loading that can be allowed to a water body or segment under critical low flow conditions while protecting existing conditions and assuring that the new or increased loading does not cause or contribute to a violation of numeric or narrative water quality standards.

Reference Water Quality (RWQ): A characterization of level of the pollutant of concern in a water segment that serves as a fixed benchmark for measuring future cumulative degradation of that water segment. RWQ shall be established by the first applicant after October 15, 2008 for a new or increased loading under these antidegradation implementation procedures. When calculating RWQ, the discharger shall account for the levels of pollutants already permitted to be discharged by all upstream dischargers at maximum design flow. [NOTE – NEED TO DEVELOP PROTOCOL FOR ESTABLISHING RWQ – AS IN MISSOURI PROCEDURES]

Segment: A segment is a section of water that is bound, at a minimum, by significant existing sources and confluences with other significant water bodies. The use of this term is intended to provide a framework for tracking changes in loading capacity. An evaluation of the reference water quality (RWQ) must be made for each segment receiving a new or increased discharge.